

Remarks/Arguments:

Claims 1-15, 17, and 18 were the pending claims in this application, and claims 7-15 have been withdrawn. With this amendment, claims 19-21 are added. No new matter has been added by the addition of these new claims. For example, support for new claims 19 and 20 is found in the claims as filed, and support for new claim 21 is found in the application at page 3, lines 8 and 9.

Claims 1-6, 17, and 18 stand rejected under 35 U.S.C. § 103 as obvious over European Patent No. 0 812 818 (Ridland '818). Applicants traverse this rejection and submit that the currently pending claims are patentable over the cited reference for all of the reasons of record and for the reasons set forth herein. In particular, and as the Examiner has recognized, Ridland '818 fails to teach or suggest that the ratio of equivalents of base to -COOH acid equivalents of the 2-hydroxy carboxylic acid is in the range 0.0033 - 0.2:1. The Office Action has alleged that "the amount of base would have been determined through routine experimentation in the art." To establish obviousness based on "routine experimentation" of a range, the Examiner must first show that the particular parameter must have been recognized as a result-effective variable, i.e., a variable which achieves a recognized result. See M.P.E.P. §2144.05, Section II.B. Ridland '818 fails to provide any reason for modifying the ratio of equivalents (or moles) of base to equivalents (or moles) of acid, let alone to achieve the result of achieving a wider processing temperature window. Moreover, even if the claimed parameter was recognized as a result-effective variable, a conclusion of obviousness can be rebutted by a showing of criticality of the claimed range. See M.P.E.P. §2144.05, Section III. Based on the previously-submitted declarations, Applicants have done just that.

Section II.B. of M.P.E.P. §2144.05 is set forth below:

A particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation. *In re Antonie*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977) (The claimed wastewater treatment device had a tank volume to contractor area of 0.12 gal./sq. ft. The prior art did not recognize that treatment capacity is a function of the tank volume to contractor ratio, and therefore the parameter optimized was not recognized in the art to be a result-effective variable.). See also *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980) (prior art suggested proportional balancing to achieve desired results in the formation of an alloy).

Turning to these cases in more detail, *In re Antonie* was directed to a wastewater treatment device which claimed a ratio of tank volume to contactor area of 0.12 gal./sq. ft. The prior art, El-Naggar, taught the basic structure of the claims but was silent regarding the design parameters. El-Naggar did state that efficiency (referring to purity of the output) could be increased to 95% by increasing the area of the contactor. The Patent Examiner in that case deemed the claims obvious by reasoning that by stating that efficiency could be increased by increasing contactor area, with no statement regarding tank volume, one could assume that the volume was held constant. Accordingly, the Examiner reasoned that the variable was deemed to be result-effective. The Court of Customs and Patent Appeals overturned the Board, which had upheld the rejection, flatly concluding, "This case, in which the parameter optimized was not recognized to be a result-effective variable, is another exception."

Similarly, Ridland '818 fails to recognize that the ratio of equivalents (or moles) of base to acid is a result-effective variable. The entire discussion of this ratio in Ridland '818 is provided at page 3, lines 21-28. There, Ridland '818 states that "the amount of base used is sufficient to fully neutralize the 2-hydroxycarboxylic acid but it is not essential that the acid is fully neutralized." Thus, no suggestion is made that varying this ratio achieves a result, let alone a particular result. The only implication provided is that it is not critical to fully neutralize the acid with base. Ridland goes on to state that "for monobasic 2-hydroxy acids such as lactic acid, the preferred amount of base is in the range 0.8 to 1.2 moles per mole of 2-hydroxy acid." Ridland provides another example for the case of citric acid that the range is between 1 to 3 moles of base per mole of 2-hydroxy acid. A careful review of Ridland '818 otherwise fails to reveal any express teaching or even implication that the claimed ratio is a result-effective variable. The ratio is not provided in the tables or discussed in the examples, and no relationship between any property and the ratio can be inferred from Ridland '818. Therefore, as in *In re Antonie*, Ridland '818 fails to recognize that the ratio of equivalents (or moles) of base to acid is a result-effective variable.

The present situation can be contrasted with the facts of *In re Boesch*. There, the applicant argued for patentability based on compositions having "N v values" not in excess of about 2.35. "N v values" refer to the average electron vacancy concentration per atom in the matrix of an alloy. In assessing patentability, the Court of Customs and Patent Appeals noted prior art U.S. Patent No. 3,837,838, which illuminates what is meant by "Pauling's Theory." The '838 Patent clearly conveyed that the higher the N v value of a particular alloy, the higher chance for the precipitation of embrittled phases. Thus, the Court concluded that the N v value

is certainly a result-effective variable. In this case, no such evidence exists either in Ridland '818 or otherwise showing that the ratio of equivalents (or moles) of base to acid is a result-effective variable. For this reason, Applicants contend that the claims are patentable because no *prima facie* case of obviousness has been made.

Moreover, even assuming that the claimed ratio is assumed to be a result-effective variable, Applicants maintain that such a *prima facie* case of obviousness has been rebutted by the declarations already made of record, for the reasons set forth previously.

For all of the foregoing reasons, Applicants respectfully request reconsideration and allowance of the pending claims. Applicants invite the Examiner to contact their undersigned representative if it appears that this may expedite examination.

Respectfully submitted,



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